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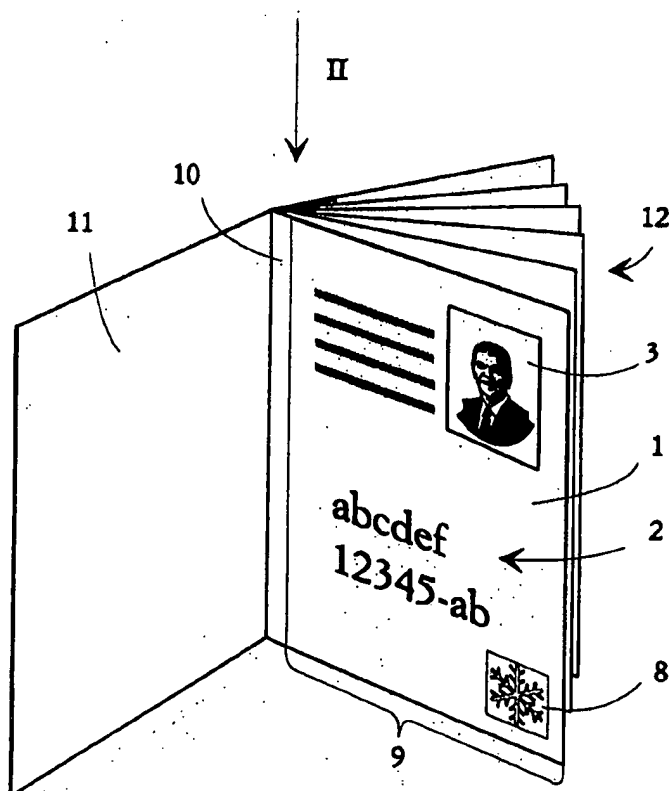
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<b>(21) International Application Number:</b> PCT/FI97/00666 <b>(22) International Filing Date:</b> 31 October 1997 (31.10.97) <b>(30) Priority Data:</b> 964406 1 November 1996 (01.11.96) FI <b>(71) Applicant:</b> SETEC OY [FI/FI]; P.O. Box 31, FIN-01741 Vantaa (FI). <b>(72) Inventors:</b> ALMGREN, Reijo; Marjatie 11, FIN-01900 Nurmijärvi (FI). MÄKINEN, Olli; Hiivisuontie 2 C, FIN-01690 Vantaa (FI). JAUHIAINEN, Erkki; Kiviojantie 123, FIN-03300 Otalampi (FI). KORHONEN, Maila; Vaahtokuva 2 B 12, FIN-01600 Vantaa (FI). PARVI-AINEN, Jouko; Syyrakinkuja 7, FIN-01890 Vantaa (FI). <b>(74) Agent:</b> BERGGREN OY AB; P.O. Box 16, FIN-00101 Helsinki (FI).		<b>(81) Designated States:</b> CZ, EE, HU, IS, LT, LV, NO, PL, RU, SK, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> <i>In English translation (filed in Finnish).</i>

**(54) Title:** PASSPORT

**(57) Abstract**

A passport comprising an information page (1) with the identification information (2) and a photograph (3) of the passport owner. The information page (1) consists of thermosetting plastic material (5, 6, 7), such as polycarbonate, which is personalised by means of laser beam inscribing.



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## PASSPORT

The object of the invention is a passport comprising an information page with the identification information and a photograph of the passport owner.

- 5 It has been discovered that passports are forged in spite of the fact that the identification information and the photograph of the owner are tightly glued under a transparent plastic film and inside the firm cover of the passport. Other solutions known per se have also been used to minimise and prevent the forging of passports.

- The purpose of the invention is to provide a new type of passport which makes it impossible to forge passports. The passport according to the invention is characterised in that the information page consists of thermosetting plastic material, such as polycarbonate, which is personalised by inscribing it by means of a laser beam. Tests have been carried out which prove that the passport according to the invention and the identification information and the photograph provided by using the said method can be manufactured only by using certain devices and correctly selected materials so that the end result looks exactly as desired. Practically, the passport is therefore impossible to forge. To manufacture the passport, special equipment and correctly selected blank materials are needed which only the passport manufacturers have the possibility and the rights to acquire. The various embodiments of the invention are presented in the dependent claims of the array of claims.

In the following, the invention is described with the aid of an example with reference to the appended drawing in which

Fig. 1 shows the passport in an opened state,

- Fig. 2 shows the binding spot of the passport as viewed from the direction of arrow II before the binding, and

Fig. 3 is an enlarged view of a section of the information page.

- The information page 1 of the passport comprises identification information 2 and photograph 3 of the owner of the passport. Information page 1 consists of polycarbonate which is personalised 2, 3, 4 by means of laser beam inscribing. Information page 1 has three layers 5, 6, 7. Surface layers 5, 7 are transparent and layer 6 between the surface layers is white. All layers 5, 6, 7 are laminated to each other by using heat and pressure. One of the transparent layers comprises about 4 %o carbon which provides darkened patterns 4 on the readable side of information page 1 by means of laser beam inscribing.

- The information page is also provided with changeable laser image 8 (CLI). The information page is thicker in the personalisation area 9 than in area 10 which extends to a fabric. The thickness of the personalisation area is about 0.3-0.4 mm and the thickness of the area extending to the fabric is about 0.1-0.2 mm. There is only
- 5 transparent plastic provided in fabric area 10 of information page 1. Information page 1 is attached to cover page 11 of the passport and to the other pages of the passport by sewing. Other pages 12 of the passport are then bound to the passport at dashed line 13. Personalisation 2, 3 of information page 1 of the passport is made fully by means of laser beam inscribing.
- 10 Separating layer 14 is employed in the fabric area of information page 1, preventing layers 5, 7 from laminating to each other. Consequently, layers 5, 7 of information page 1 can slide with respect to each other in fabric area 10, increasing the strength of the passport. The separating layer can be, for example, PVA = polyvinyl alcohol or polyvinyl butyrate.

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## CLAIMS

1. A passport comprising an information page (1) with the identification information (2) and a photograph (3) of the passport owner, **characterised** in that the information page (1) consists of thermosetting plastic (5, 6, 7), such as polycarbonate, which is personified by means of laser beam inscribing.
2. A passport according to Claim 1, **characterised** in that the information page (1) is multilayer so that it comprises at least one transparent layer (5) and one coloured layer (6), whereby the coloured layer is preferably white, and the layers are laminated to each other by using heat and pressure.
3. A passport according to Claim 1 or 2, **characterised** in that the information page (1) is multilayer so that the coloured layer (6) is located between the two transparent layers (5, 7) and that one transparent layer comprises, for example, 4 % carbon which provides darkened patterns on the readable side of the information page by means of laser beam inscribing.
4. A passport according to any of the preceding Claims, **characterised** in that the fabric area (10) of the information page (1) only comprises transparent layers.
5. A passport according to any of the preceding Claims, **characterised** in that the information page (1) is provided with a changeable laser image (8) (CLI).
6. A passport according to any of the preceding Claims, **characterised** in that a separating layer (14) is provided in the fabric area (10) of the information page (1), preventing the layers (5, 7) from laminating to each other.

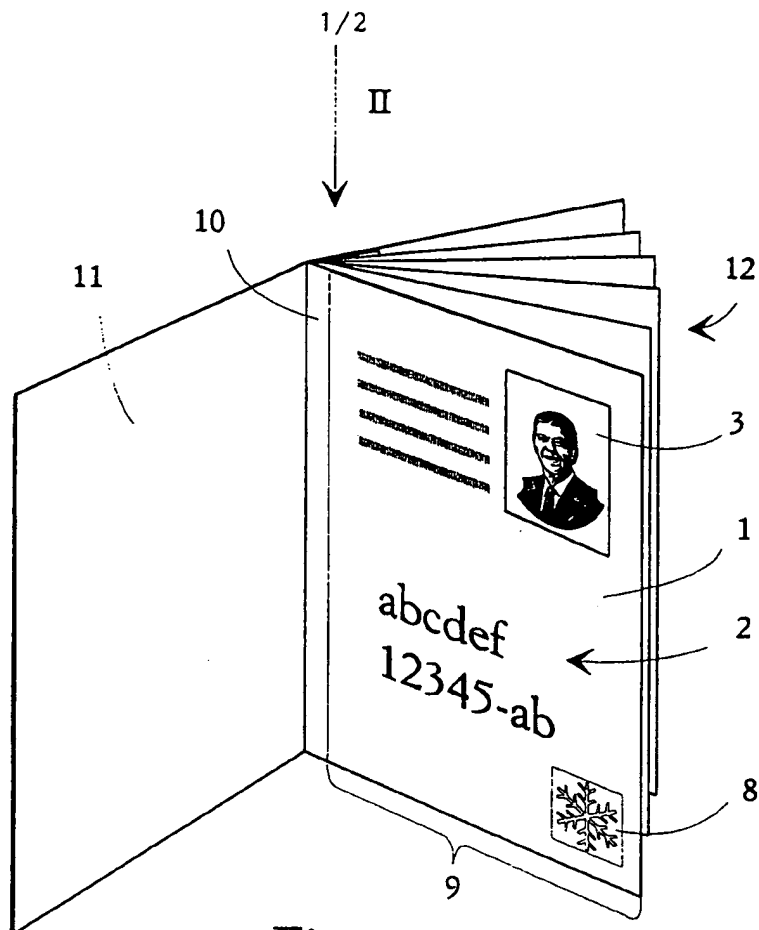


Fig. 1

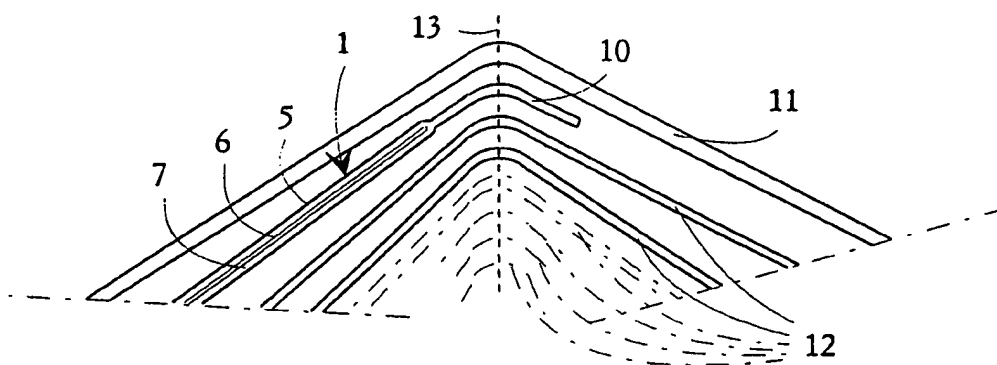


Fig. 2

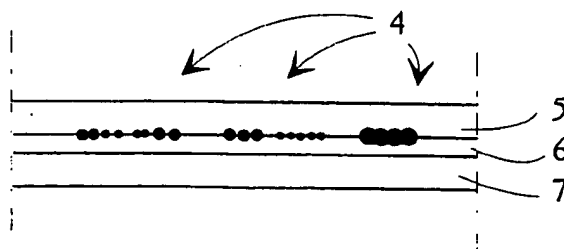


Fig. 3

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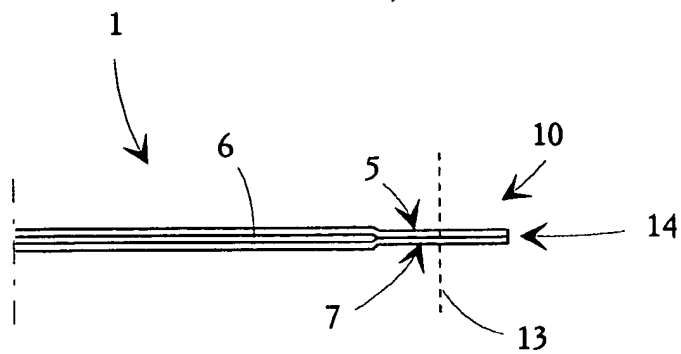


Fig. 4

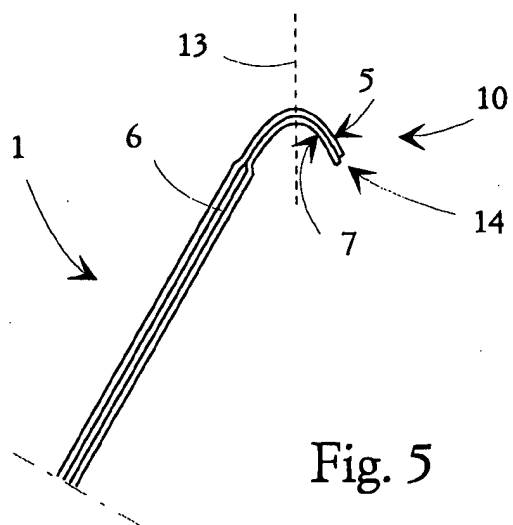


Fig. 5

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/FI 97/00666

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC6: B42D 15/10**  
According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: B42D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, WPI

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	EP 0364730 A2 (GAO GESELLSCHAFT FÜR AUTOMATION UND ORGANISATION MBH), 25 April 1990 (25.04.90), column 5, line 24 - column 8, line 56, figures 1,2, abstract --	1-6
X	EP 0372274 A2 (GAO GESELLSCHAFT FÜR AUTOMATION UND ORGANISATION MBH), 13 June 1990 (13.06.90), abstract --	1-3
X	EP 0676715 A2 (DORNED B.V.), 11 October 1995 (11.10.95), figure 1, abstract --	1-3

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## INTERNATIONAL SEARCH REPORT

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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Information on patent family members

03/02/98

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